



PIER Energy-Related Environmental Research

Environmental Impacts of Energy Generation, Distribution and Use

Development of a Decision Making Tool for Planning Alternative Corridors for Transmission Lines (PACT)

Contract #: 500-04-029

Contractor: Southern California Edison

Contract Amount: \$1,680,000

Match Funding: \$500,000 (Southern California Edison)

Contractor Project Manager: Mary Deming

Commission Project Manager: Linda Spiegel

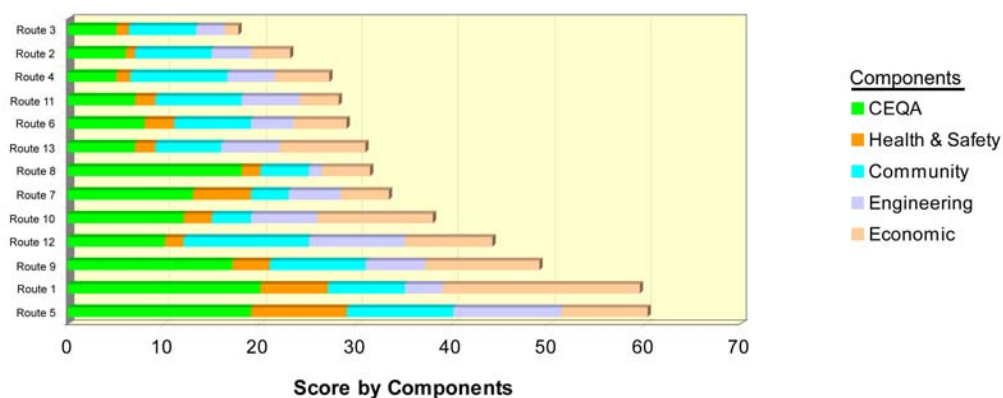
Commission Contract Manager: Sandra Barnett

The Issue

Siting energy facilities is a complex process that involves the interests of many stakeholders including utilities, regulators, local governments, and the public. Reaching consensus on the multitude of issues involved results in lengthy siting timelines—just as California’s demand for energy and an improved, expanded energy infrastructure is increasing, as the result of a growing population and the need to meet the state’s renewable portfolio standard target by 2017.

Routes Comparison Chart

This chart shows component impacts for each route. (A long bar indicates high impact.)



Complex siting decisions involve numerous technologies, regulations, and land use priorities, and seek to satisfy the needs of sometimes competing stakeholders. As a result, decision makers need tools and information that enable them to more rapidly handle diverse data sets, so that they can assess alternative siting impacts. The tools must provide a means to reach defensible decisions that address and clearly communicate all stakeholder interests. In addition, project proponents and regulatory agencies need a better framework to enable them to plan and assess each of these scenarios more quickly and efficiently. A procedure that allows stakeholders to

communicate needs and options early in the planning process is likely to facilitate consensus building.

Southern California Edison (SCE) and Facet Decision Systems have been developing a web-based siting decision analysis tool to assess alternative transmission line routes. It compares biological, cultural, visual, economic, and stakeholder values. This siting decision framework is intended to carry the energy siting process from preliminary site assessments and informal public participation, through the rigorous environmental assessment and formal public processes, to siting permit processes. The framework would facilitate the regulator's work on reviews, independent analyses, public reviews and hearings, and constructive feedback to proponents and the public—and offer the flexibility to rapidly correct, add, and resubmit a proposal.

SCE's existing siting framework has been tested in the narrow context of internal site screening for a local substation and power line. However, several issues need to be resolved before the application will be easy, user-friendly, and efficient to use. More comprehensive testing and development are required to resolve technical issues and expand the model's capabilities (i.e., sensitivity analysis and risk assessment) to fully realize its potential as a decision support system.

The *Integrated Energy Policy Report 2004 Update*¹ identified the need to develop a process to engage the active, early participation of stakeholders in transmission line planning as a means to improve the state's long-term transmission planning process. The *Five-Year Transmission Research and Development Plan*² developed by PIER's Energy Systems Integration Program Area identified the need to refine and develop transmission expansion planning tools to provide for coordination with all parties involved as a high-priority, near-term research area that would have high potential benefits and directly address critical transmission line issues.

Project Description

This project is testing the existing framework using a real-time needed project, in order to:

- expand the framework to apply siting at regional and state-wide scales,
- enhance the framework to include the entire project development lifecycle from initial feasibility analyses through to filing an application to regulators, and
- expand the scope for interactive decision making by all stakeholders.

The project's goal is to engage the multiple stakeholders early in the process to reduce the up-front time required to reach agreement on identifying the most feasible alternative site for an energy facility.

¹ California Energy Commission. *Integrated Energy Policy Report 2004 Update*. 100-04-006CM. November 2004. www.energy.ca.gov/reports/CEC-100-2004-006/CEC-100-2004-006CMF.PDF.

² California Energy Commission. *Five-Year Transmission Research and Development Plan*. Staff Report. 500-03-104F. November 2003.

PIER Program Objectives and Anticipated Benefits for California

This project offers numerous benefits and meets the following PIER program objectives:

- **Providing reliable electricity.** The decision making tool developed from this research will provide the diverse energy development stakeholders access to and understanding of complex issues related to energy facility siting, and reduce the time currently required to certify new developments. Siting frameworks will allow defensible assessment of alternative sites, taking into account all stakeholder concerns. Such a transparent assessment will allow decision makers to carefully weigh the pros and cons of each alternative and enable them to clearly communicate the mechanisms behind the decision to all beneficiaries. As a result, energy facilities that are responsive to all stakeholder needs should be able to be permitted more quickly.

Final Report

PIER-EA staff intend to post the final report on the Energy Commission website in spring 2008 and will list the website link here.

Contact

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